PSC Resources Superfund Site

Palmer, Massachusetts

Second Five-Year Review Report

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09/29/05
Date

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I. Introduction

EPA New England Region has conducted a second five-year review of the remedial actions implemented at the PSC Resources Superfund Site in Palmer, Massachusetts. This review was conducted from March 2005 through September 2005. This report documents the results of the review. The purpose of the five-year review is to determine whether the remedy at a site is protective of human health and the environment. The methods, findings, and conclusions of reviews are documented in five-year review reports. In addition, five-year review reports identify deficiencies found during the review, if any, and identify recommendations to address them.

This review is required by statute. EPA must implement five-year reviews consistent with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). CERCLA 121(c), as amended, states:

> If the President selects a remedial action that results in any hazardous substances, pollutants, or contaminants remaining at the site, the President shall review such remedial action no less often than each five years after the initiation of such remedial action to assure that human health and the environment are being protected by the remedial action being implemented.

The NCP part 300.430(f)(4)(ii) of the Code of Federal Regulations (CFR) states:

> If a remedial action is selected that results in hazardous substances, pollutants, or contaminants remaining at the site above levels that allow for unlimited use and unrestricted exposure, the lead agency shall review such action no less often than every five years after the initiation of the selected remedial action.

This is the second five-year review for the PSC Resources Site. The triggering action for this review is the initiation of the remedial action on September 12, 1995. Due to the fact that hazardous substances, pollutants, or contaminants remain at the site above levels that allow for unrestricted use and unlimited exposure, a five-year review is required.

II Site Chronology

DATE	EVENT
1978	Massachusetts Department of Environmental Quality Engineering (DEQE)(now Mass Department of Environmental Protection or DEP), initiates actions against facility owners resulting in closing of facility.
1982 - 1984	Removal Activities - removing drums, liquids and sludge from tanks.
9/83	Final listing on EPA National Priorities List.
1986	Additional removal activities - Demolition and removal of remaining storage tanks and waste material contained in tanks.
1/92	Remedial Investigation/Feasibility Study (RI/FS) made available to public.
3/92	Proposed Plan identifying EPA's preferred remedy, presented to public. Start of public comment period.
9/15/92	Record of Decision (ROD) choosing the remedy is signed.
2/95	Consent Decree finalizing settlement for Responsible Party performance of remedy, entered by Federal Court.
9/11/95	Start of on-site construction for building/structures demolition and decontamination (1^{st} phase of site Remedial Action and date which triggers 5-year review). Completed 7/30/96.
11/26/96	Explanation of Significant Differences (ESD) issued by EPA, primarily changing a component of the remedy from "in-situ" to "ex-situ".
5/5/97	Start of on-site construction for stabilization remedy (2^{nd} phase of site Remedial Action).
8/28/98	Construction Completion.
9/8/98	Start of Operation and Maintenance.

III Background

The PSC Resources Site is an approximately four acre facility located on Water Street adjacent to and upgradient of the Quaboag River in Palmer, Massachusetts. Palmer is a community of approximately 12,000 residents, located in Hampden County. In addition to the property parcel, the Site includes the adjacent wetlands, wooded area and the immediately adjacent portion of the river(see Figure 1). The Site is located within the 100-year flood zone of the Quaboag River. The Site is bordered by Water Street, wetlands and woodlands, by the Quaboag River, and by a soccer field. Residential and commercial properties are located across Water Street from the Site.

The historic land use of the Site has entailed some petroleum or solvent related industry since at least 1900. From at least 1974 until operations ceased in 1978 activities at the Site included waste oil and solvent recovery and disposal. In the course of these operations, spills occurred causing contamination of soils, sediments and groundwater. Contamination at the Site was discovered in the course of several property inspections conducted by the DEQE which documented; improper maintenance as well as waste oil and hazardous materials spills. Hazardous substances which have been released at the site in the following media include:

Soil
PCBs
PAHs
1,1-Dichloroethane
Cis-1,2-Dichloroethylene
Trans-1,2-Dichloroethylene
1,1,1-Trichlorethane
Trichloroethylene
Tetrachloroethylene
Benzene
Lead

Lagoon Sediment
Bis(2-ethylhexyl)phthalate
PAHs
1,1-Dichlorethane
1,1,1-Trichloroethane
Trichloroethylene
Tetrachloroethylene
Methylene Chloride
Benzene
Acetone
Lead

Wetland Sediment
PCBs
PAHs
Arsenic
Lead
Zinc

Groundwater
Bis(2-ethylhexyl)phthalate
Vinyl Chloride
1,1-Dichloroethane
Cis-1,2-Dichloroethylene
Trans-1,2-Dichloroethylene
1,1,1-Trichlorethane
Methylene Chloride
Trichloroethylene
Tetrachloroethylene
Benzene
2-Butanone (MEK)
Acetone
Lead

From 1978 to 1984, as a result of enforcement efforts by the Commonwealth of Massachusetts, approximately 1.5 million gallons of waste material were removed from the Site during a number of separate events. In 1986, interim measures were taken to; establish complete fencing of the Site, demolish and dispose of 19 storage tanks, dispose of the oil and water contained in the tanks, and dispose of sludge generated during the cleaning of tanks.

There is currently a fence on the Site. The treated, stabilized soils and sediments are contained within the fenced area under an impermeable cap. The wetland and enhancement areas are not within the fenced area. As mentioned above, the current land use for the surrounding area is residential, commercial (both are across the street from the Site) and recreational (the adjacent soccer field). Although there have been a number of zoning changes over the years, it is anticipated that a mix of land uses similar to that described will continue into the future. According to the Town of Palmer Planning Board, properties along Water Street are currently zoned for either residential or industrial use. In establishing cleanup requirements for the Site, EPA considered the theoretical possibility of residential development at the Site.

IV Remedial Actions

A. Remedy Selection

The Record of Decision (ROD) for the PSC Resources site was signed on September 15, 1992. Remedial Action Objectives (RAOs) were developed as a result of data collected during the Remedial Investigation to aid in the development and screening of remedial alternatives to be considered for the Record of Decision. The RAOs for PSC Resources were:

Source Control Response Objectives

- Minimize the migration of contaminants from the property soils and lagoon sediment that could degrade ground water quality;
- Reduce risks to human health by preventing direct contact with, and ingestion of, contaminants in the property soils, wetland sediments, and lagoon sediments; and potential ingestion of contaminated ground water;
- Reduce risks to the environment by preventing direct contact with, and ingestion of, contaminants in the wetland sediments;
- Minimize the migration of contaminants (i.e., from property soils, lagoon sediments, and wetland sediments) that could result in surface water concentrations in excess of Ambient Water Quality Criteria.

Management of Migration Response Objectives

- Eliminate or minimize the threat posed to human health and the environment by preventing exposure to ground water contaminants;
- Prevent further migration of ground water contamination beyond its current extent; and

- Restore contaminated ground water to Federal and State applicable or relevant and appropriate requirements (ARARs), including drinking water standards, and to a level that is protective of human health and the environment within a reasonable period of time.

The major components of the source control remedy selected in the ROD include:

1. Decontamination, demolition, and off-site disposal of property structures;
2. Treatment and discharge of lagoon surface water;
3. Consolidation of contaminated property soils with lagoon and wetland sediments on site property;
4. In-situ mixing and stabilization of property soils/sediments with treatment agents to bind contaminants into a stable matrix;
5. Construction of a permeable cap over stabilized property soils and sediments, and grading and planting of the cap's surface;
6. Restoration of wetlands;
7. Implementation of institutional controls on groundwater use and land development; and
8. Long-term monitoring of groundwater, wetland sediments, and Quaboag River water and sediments.

The major components of the management of migration remedy selected in the ROD include:

1. Use of natural attenuation to achieve groundwater cleanup levels;
2. Groundwater monitoring of existing wells on the PSC Resources, Inc. property and of monitoring wells adjacent to the property;
3. Sediment sampling of portions of the wetland and the Quaboag River, where groundwater discharges to the wetland and the Quaboag River;
4. Surface water sampling in areas adjacent to the wetland and in the Quaboag River; and
5. Five-year site reviews to assess site conditions, contaminant distributions, and any associated site hazards.

An Explanation of Significant Differences (ESD) was issued on November 26, 1996. The primary changes documented in the ESD were:

- Ex-situ stabilization instead of in-situ; and
- Construction of a low-permeability cap instead of a permeable cap.

The change to ex-situ stabilization led to the necessity of designating a Corrective Action Management Unit (CAMU) at the Site concurrent with the ESD. This designation allowed the handling and temporary storage of contaminated soils and

sediments which was necessary using ex-situ stabilization.

B. Remedy Implementation

In a Consent Decree (CD) signed with EPA on September 18, 1994, the Performing Settling Defendants (PSDs) agreed to perform the remedial design/remedial action (RD/RA). The RD was conducted in conformance with the ROD as modified by the ESD. The RD was approved by EPA on March 5, 1997.

The Remedial Action (RA) took place in two phases. The first phase entailed the decontamination, demolition and off-site disposal of property structures. The activities for this phase were initiated on September 12, 1995 and were completed on December 28, 1995. The major components of this phase of the RA were:

- Decontamination of the buildings and structures on the property;
- Removal, treatment, and discharge to the Quaboag River of water from the basement of one building and water collected from decontamination.
- Collection and analyses of composite samples of buildings and structures.
- Demolition and off-site disposal of property buildings and structures and off-site disposal of miscellaneous debris from the property;
- Removal and off-site disposal of two underground storage tanks and one manhole and their contents; and
- Restoration of demolition areas to match existing grade.

The second phase entailed all other remedial activities. Component numbers 2 through 7 of the Source Control Remedy as listed in Section A., constituted the primary activities performed as the second phase of the RA. The activities for the second phase of the RA were formally initiated on March 11, 1997 when the PSDs awarded the RA contract. The contractor conducted remedial activities as planned and EPA and the State conducted a pre-final inspection on November 19, 1997. During this period, 1,606 cubic yards of lagoon sediment, 1,187 cubic yards of wetland sediment and 8,004 cubic yards of soil were treated, stabilized and placed under the impermeable cap. In addition, a fence and surface water drainage structures were built. At this time, the preparation for the wetland restoration (grading and backfilling of clean sediment material) and the planting of new, replacement wetland species was accomplished. The pre-final inspection concluded that construction had been completed in accordance with the remedial design plans and specifications and did not result in the development of a punch list. The ***Final Remedial Construction Source Control Close-out Report***, submitted by the PSDs has been approved by EPA and MADEP.

The site achieved construction completion status when the Preliminary Close Out Report was signed on August 28, 1998.

EPA and the state have determined that all RA construction activities, including the implementation of institutional controls, were performed according to specifications. The Interim RA Report documenting the completion of Remedial Action, was issued on March 8,1999. It is expected that cleanup levels for all groundwater contaminants will have been reached within approximately 10 years. After groundwater cleanup levels have been met, EPA will issue a Final RA Report.

C. Operation and Maintenance

The PSDs are conducting long term monitoring and maintenance activities according to the operation and maintenance (O&M) plan which was approved by EPA September 8, 1998. The primary activities associated with O&M include:

- Visual inspection of the cap with regard to vegetative cover, settlement, stability, and any need for corrective action. In addition, the cap is scheduled to be mowed semi-annually.

- Inspection of the drainage swale for blockage, erosion and instability, and any need for corrective action.

- Inspection of the condition of groundwater monitoring wells.

- Environmental monitoring. Groundwater, wetland surface water and sediment, and Quaboag River surface water and sediment were initially monitored quarterly. This was followed by 3 years of semi-annual monitoring, and starting in June 2003, annual monitoring.

- Engineered Wetlands inspection and assessment. Inspections are conducted primarily for the purposes of assessing both weed control needs and the survival of plantings. Assessments are performed specifically to determine if the Engineered wetlands are meeting the performance standards regarding the survival and density of desired wetland species.

The primary cleanup of the PSC Resources Site took place during the construction phase of the Remedial Action (i.e. the stabilization of contaminated soil and sediments). The other remaining component of cleanup is the natural attenuation of groundwater, as the source of groundwater contamination in soil and sediment has been removed. Therefore, as indicated in the planned elements above, the primary O&M activities have been geared towards inspections and maintenance.

The First Five-Year Review documented an access issue with an adjacent private property on which wetland restoration activities had taken place. The PSD contractor was unable to perform wetland inspection and maintenance activities (weeding and re-planting, as necessary) on this property (Figure 2, Hafner) as required in the O&M Plan. The total area of restored wetlands at the Site was 0.7 acres. The access issue affected 0.32 acres of restored wetlands. Because these 0.32 acres could not be maintained, it was assumed that target criteria for shrub density and groundcover would not be achieved in this area. Therefore the PSD contractor proceeded to identify alternate areas on the Site for restoration or enhancement.

In 2000 and 2001, additional on-site wetland or upland acreage was identified and underwent restoration or enhancement (primarily eradication of invasive species and planting of desirable shrubs and groundcover). The restoration/enhancement acreage at PSC Resources now totals 0.97 acres. The change in acreage and additional target criteria (performance standards for survival and density of desired species) were documented in a "Non-Material Modification" to the Consent Decree signed on October 29, 2002.

The 0.97 acres is made up of 5 restoration areas, and 5 enhancement areas. As of the September 2004 evaluation (letter report dated January 18, 2005), 4 of the 5 restoration areas have met their respective target criteria and no longer require monitoring or maintenance. The fifth area is very close to achieving target criteria. The 5 enhancement areas have met their respective target criteria. Monitoring and eradication of invasive species in the enhancement areas will continue in 2005.

The wetland issue and progress described above have had no impact on the protectiveness of the remedy or the potential release of contaminants.

V. Progress Since the Last Five-Year Review

The first five-year review was conducted in September, 2000. At that time, the PSC Resources site was already in the O&M phase. Since the first five-year review:

- Ground water contaminant levels have continued to fall, with levels meeting or approaching the cleanup levels required in the ROD. In the most recent monitoring events only benzene and vinyl chloride have exceeded their respective cleanup levels.
- Surface water cleanup levels have been met in the site wetlands and the Quaboag River eliminating the need for further surface water monitoring.
- Cleanup levels in wetland sediment have been met for total PAH, total PCBs, arsenic and lead. Monitoring will no longer take place for these contaminants. Zinc in wetland sediment will be monitored for in 2005. If zinc levels remain below cleanup levels, zinc will be eliminated from the monitoring program.

- Cleanup levels in Quaboag River sediment have been met for volatile organic compounds (VOC's) and bis(2-Ethylhexyl)phthalate (BEHP). Monitoring will no longer take place for these contaminants. Lead in Quaboag River sediment is approaching background levels and will be monitored for in 2005. If lead concentrations remain within an acceptable background concentration range, lead may be eliminated from the monitoring program.
- The engineered wetlands program has largely been successful. Nine out of ten areas have met their respective performance criteria.

VI. Five-Year Review Process

The PSC Resources five-year review was led by Don McElroy of EPA, Remedial Project Manager for the PSC Resources site. Garry Waldeck of MADEP assisted in the review as the representative for the support agency.

This five-year review has consisted of:

- review of relevant Site documents (see Attachment 1);

The ROD and ESD were reviewed, as well as numerous documents associated with operation and maintenance activities. Aside from wetlands issues discussed previously, maintenance and inspection issues have been almost non-existent. Necessary follow-up activities have been minimal.

- review of applicable groundwater cleanup standards;

Federal and Massachusetts standards have been examined, indicating that the existing cleanup standards remain relevant.

- review of monitoring data results;

Monitoring data (see Table) shows significant progress towards cleanup levels, with two contaminants (benzene and vinyl chloride) not having met cleanup levels. However, benzene and vinyl chloride are approaching their respective cleanup levels.

- review of Town of Palmer Planning Board records;

A review of records at the Town of Palmer Planning Board confirms that the area around the site remains zoned for a mix of industrial and residential uses.

- review of documents filed at the Hampden County Registry of Deeds; and

A review of documents filed at the Hampden County Registry of Deeds demonstrates that institutional control documents which restrict activity and usage at the site are in place.

- visit to the PSC Resources Site.

A site visit in August 2005 demonstrated that the wetlands, landfill cap and security fence are all in good condition.

The completed report is available at the information repository.

VII. Technical Assessment

Question A: Is the remedy functioning as intended by the decision documents?

The review of documents, ARARs (relevant standards), risk assumptions, and the results of the site visit indicate that the remedy is functioning as intended in the ROD, as modified by the ESD.

As discussed previously, the active work for the PSC Resources Site Remedial Action, the treatment and capping of contaminated soil and sediment, has been completed. There are really no ongoing operations at the Site.

Groundwater is being remediated via natural attenuation following removal of contamination sources in soil and sediments. The monitoring record shows that groundwater contamination has not migrated beyond its extent at the time of the ROD. The monitoring record indicates that the groundwater attenuation process conceptualized in the ROD is proceeding as expected. Most contaminants have fallen below their respective cleanup levels for some time. Benzene and vinyl chloride have continued to progress toward their cleanup levels of 5 parts per billion (ppb) and 2 ppb respectively. Groundwater monitoring data is included in this report as Table 1. As discussed earlier, monitoring is currently conducted on an annual basis.

Restored wetlands have been monitored and maintained as required in the O&M Plan. Nine out of ten restoration areas have achieved their required performance criteria.

EPA conducted the most recent inspection of the Site in August 2005. No issues were identified at that time. All fences and barriers were intact and in good repair, cap vegetation and drainage swales were in good condition and restoration/enhancement areas appeared in good condition. No evidence of trespassing or vandalism was noted.

Institutional Controls

Institutional controls are in place for the PSC Resources property as well as for the adjacent Town-owned property, the only properties on or near the Site requiring institutional controls. These institutional controls are established through the Access and Institutional Controls Agreement between the Performing Settling Defendants and the Town of Palmer (Appendix J of the Consent Decree), dated October 20, 1994, and recorded on June 19, 1997 in the Hampden County Registry of Deeds at Book 9901, pages 118 through 136. Paragraph 7 of Appendix J identifies the institutional controls which are in place, including prohibitions on the use or disturbance of ground water until cleanup levels are achieved, and prohibitions on excavation activities, disturbance of

the cap, and any other activities or actions which might interfere with the implemented remedy. There has been no evidence found of activity in the last five years which is inconsistent with the institutional controls.

Question B: Are the exposure assumptions, toxicity data, cleanup levels, and remedial action objectives (RAOs) used at the time of the remedy selection still valid?

There have been no changes in the physical conditions of the site that would affect the protectiveness of the remedy.

As the remedial work has been completed, most ARARs cited in the ROD, do not have current relevancy. ARARs which do retain relevancy at this time and which have been evaluated include: the Safe Drinking Water Act (SDWA)(40 CFR 141.11-141.16) from which were derived many of the groundwater cleanup levels - Maximum Contaminant Levels (MCLs), and MCL Goals (MCLGs); ARARs related to wetland protection, and ARARs related to post-closure monitoring. There have been no changes in these ARARs affecting the protectiveness of the PSC Remedy.

The exposure assumptions used to develop the Human Health Risk Assessment included both current exposures (older child trespasser, adult trespasser) and potential future exposures (young and older child future resident, future adult resident and future adult worker). These assumptions are considered to be conservative and reasonable in evaluating risk and developing risk based cleanup levels. No change to these assumptions or the cleanup levels developed from them, is warranted.

Question C: Has any other information come to light that could call into question the protectiveness of the remedy?

No information has come to light that could call into question the protectiveness of the remedy. Site inspection and monitoring results indicate that the remedy is protective.

Technical Assessment Summary

According to the data reviewed and the site inspection, the remedy is functioning as intended by the ROD, as modified by the ESD. There have been no changes in the physical conditions of the site that would affect the protectiveness of the remedy. Institutional controls are in place to restrict activity and usage at the site.

VII. Protectiveness Statement

As documented in the First Five-Year Review, the remedy for the PSC Resources Site was implemented as required in the ROD, as modified by the ESD. Verification sampling determined that soil and sediment with contamination above cleanup levels had been excavated. Analytical testing showed that the treatment

process was effective on the contaminated material (soil and sediment) and that all performance criteria were achieved.

At this time, the assumptions used at the time of remedy selection are valid and no changes to cleanup levels are warranted. Groundwater monitoring shows that natural attenuation is progressing towards achieving cleanup levels. The threats posed by exposure to contaminated soil and sediment at the PSC Resources have been addressed. Institutional controls have been put in place to ensure that contaminated groundwater is not used and that no actions take place which interfere with the implemented remedy. The remedial action at PSC Resources will be protective when the groundwater cleanup levels are achieved as expected.

VIII. Conclusions

As noted there really no "operations" at the PSC Resources Site. The ongoing activities relate to maintenance and monitoring.

The maintenance of restored wetlands, is nearly complete. Restoration and enhancement areas have met target performance criteria in nine of ten areas. Maintenance activities will continue in the area which has not yet fully met its target performance criteria.

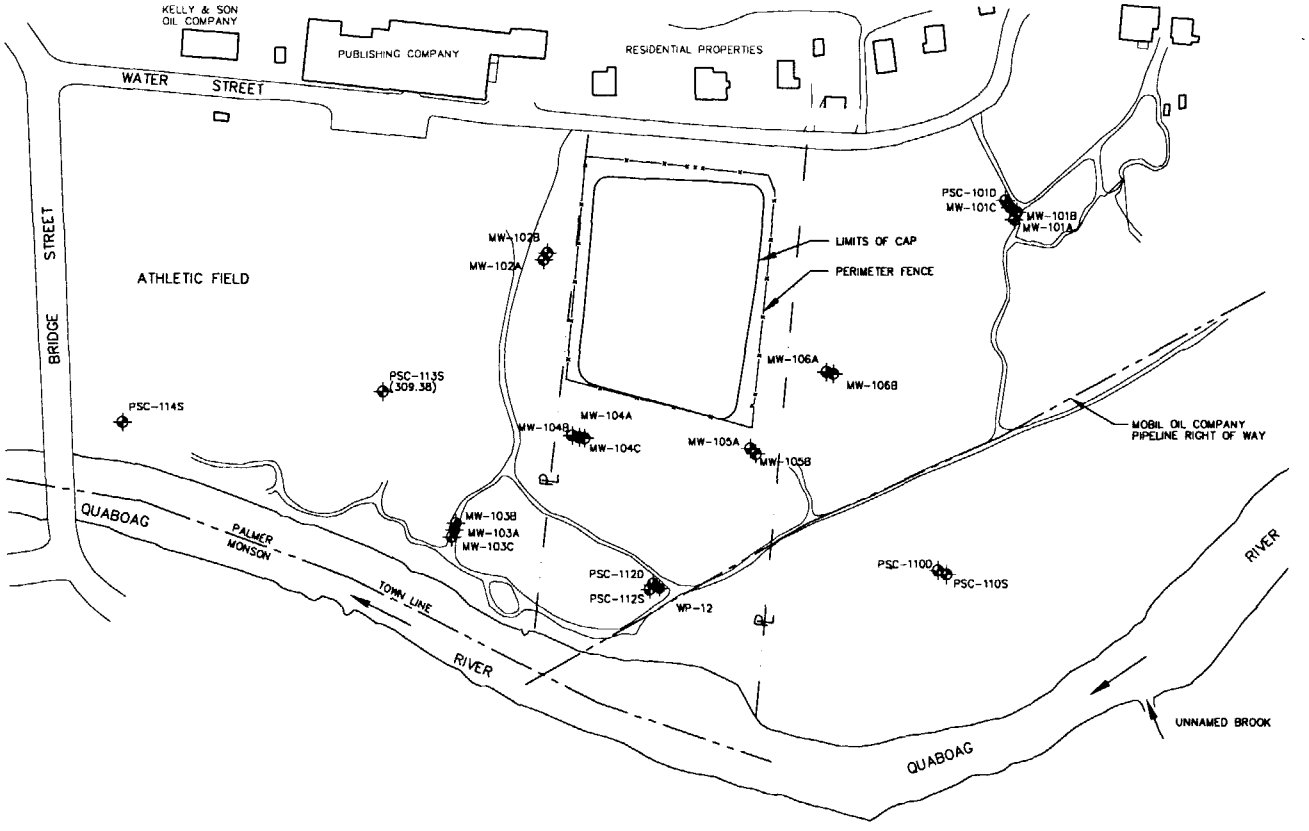
Inspection and maintenance of the fence, cap and drainage systems has been straightforward and has necessitated minimal follow-up during the O&M period.

Environmental monitoring will continue to be a long term activity until at least attainment of groundwater cleanup levels.

IX. Next Review

Five-year reviews are conducted every five years at sites where contaminant levels remain at concentrations that prevent unlimited, unrestricted use of the Site. The next five-year review for the PSC Resources Superfund Site should be conducted by 2010.

FIGURE 1



LEGEND

- MW-104B — MONITORING WELL
- WP-12 — PIEZOMETER
- —x— APPROX. FENCELINE LOCATION
- —℄— PSC RESOURCES PROPERTY BOUNDARY

NOTE:
ELEVATIONS RELATIVE TO MEAN SEA LEVEL

PSC RESOURCES
SUPERFUND SITE
PALMER, MASSACHUSETTS

SITE PLAN

0 150 300
APPROX. SCALE IN FEET

OCTOBER 2004
FILE NO. 5819.005.023

O'BRIEN & GERE
ENGINEERS INC.

GENERAL NOTES:

1. FIGURE PLANS AND PRESENTATION MAP'S WERE PREPARED BASED UPON INFORMATION WITHIN THE "SARSS II" REMEDIAL INVESTIGATION, VOLUME I OF IV, SECTIONS 1 THROUGH 8, DATED JANUARY 1992, PREPARED BY HMM ASSOCIATES, INC.

REV DATE: 9/17/99

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FIGURE 2

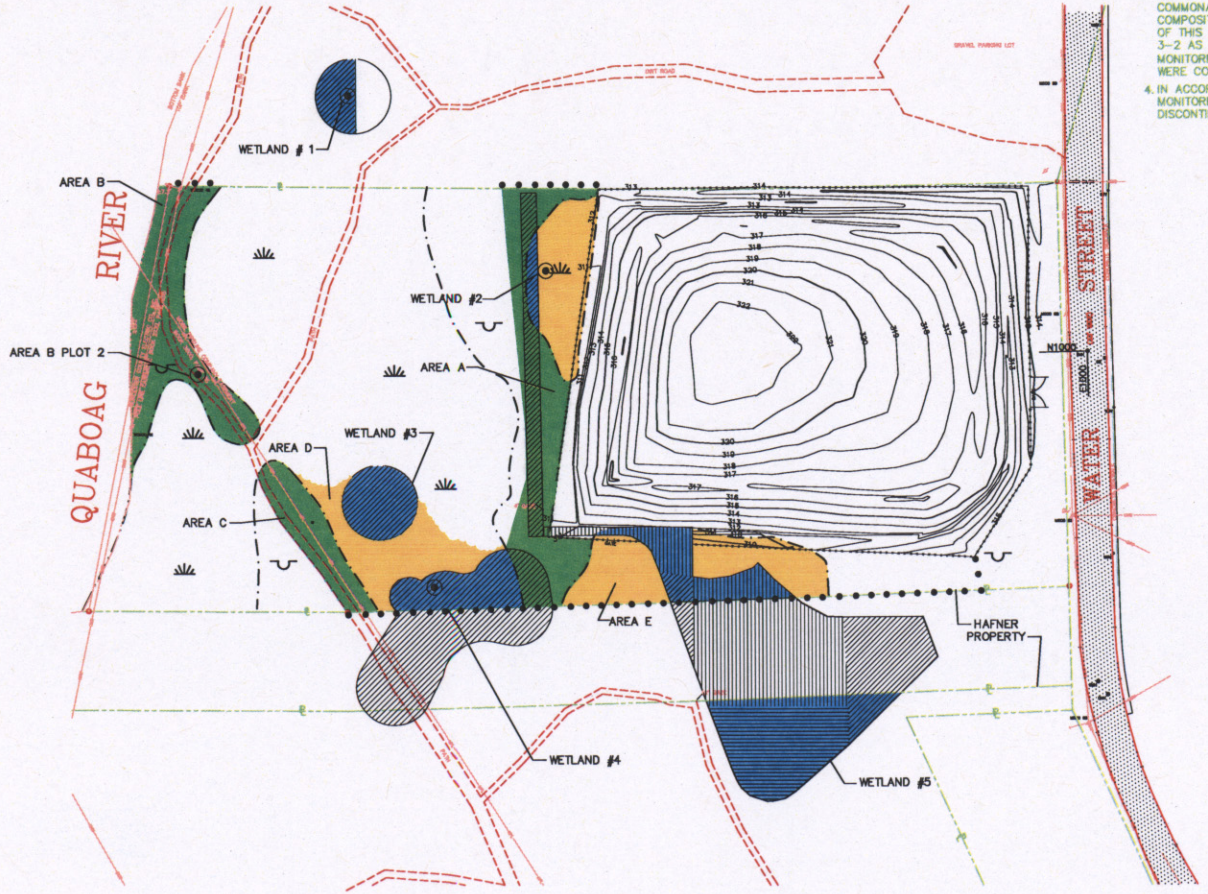

FIGURE NOTES:

1. FIGURE ADAPTED FROM "FINAL SITE PLAN" AS-BUILT DRAWING SHEET G-4 FILE NUMBER 5819.003-045.
2. WETLANDS DEPICTED ON HAFNER PROPERTY NO LONGER SUBJECT TO MAINTENANCE AND EVALUATION.
3. DUE TO THE SMALL SIZE OF RESTORED WETLAND #2, AS CURRENTLY INDICATED ON FIGURE 3-2 OF THE O&M PLAN, AND THE COMMONALITY OF HABITAT AND SPECIES COMPOSITION OF WETLAND #2 AND THE AREA OF THIS PLOT, WHICH IS INDICATED ON FIGURE 3-2 AS A WETLAND TO BE MONITORED/MAINTAINED, THESE TWO AREAS WERE COMBINED TO REPRESENT WETLAND #2.
4. IN ACCORDANCE WITH SECTION V.B.1.q OF THE SOW, MONITORING OF WETLANDS #1, #2, AND #4 WAS DISCONTINUED FOLLOWING THE 2003 EVALUATION.

LEGEND

- OHW — OVERHEAD WIRES
- PROPERTY LINE
- RESTORED WETLANDS TO BE MONITORED/MAINTAINED
- WETLANDS TO BE MONITORED/ MAINTAINED
- ENHANCEMENT AREA WETLAND BOUNDARY BARRIER
- BARRIER
- WETLAND BOUNDARIES

WETLAND TYPES

- EMERGENT
- SCRUB/SHRUB
- FORESTED
- UTILITY POLE
- GUY WIRE
- SMH — SANITARY MANHOLE
- GATE IN FENCE
- DMH — DRAINAGE MANHOLE
- UPLAND
- DELINEATED WETLAND

PSC RESOURCES
SUPERFUND SITE
PALMER, MASSACHUSETTS

SITE PLAN

100 0 100

SCALE IN FEET

JANUARY 2005

FILE NO. 5819.005.024

O'BRIEN & GERE
ENGINEERS INC.

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Table 1
PSC Resources Superfund Site
Palmer, MA
Historic Ground Water Analytical Results and Cleanup Levels

	Location ID		EM-MW-101C	EM-MW-101C	EM-MW-101C	EM-MW-101C	EM-MW-101C	EM-MW-101C	EM-MW-101C	EM-MW-101C
	Aquifer Type		Overburden	Overburden	Overburden	Overburden	Overburden	Overburden	Overburden	Overburden
	Lab Sample ID		J7234	K2183	K8057	M4251	N1966	N6675	Q0661	Q6352
	Sample Date		9/30/1998	12/14/1998	3/16/1999	6/14/1999	9/20/1999	12/13/1999	3/13/2000	6/12/2000
	Test Type		Initial	Initial	Initial	Initial	Initial	Initial	Initial	Initial
Chemical Name	Unit	Ground Water Interim Cleanup Level								
Volatile Organic Compounds										
1,1,1-Trichloroethane	ug/L	200	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
1,1-Dichloroethane	ug/L	3600	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
2-Butanone (MEK)	ug/L	350	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Acetone	ug/L	3500	10 U	10 U	10 U	10 U	10 UJ	10 U	10 U	10 U
Benzene	ug/L	5	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
Methylene chloride	ug/L	5	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	2.0 U	2.0 U	2.0 U
Tetrachloroethene	ug/L	5	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
Trichloroethene (TCE)	ug/L	5	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
Vinyl Chloride	ug/L	2	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	ug/L	70	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
trans-1,2-Dichloroethene	ug/L	100	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
Semivolatile Organic Compounds										
bis(2-Ethylhexyl)phthalate (BEHP)	ug/L	6	5.3 U	5.3 U	5.2 U	5.1 U	5.2 U	6.7 U	5.1 U	1.0 J
Metals										
Lead	mg/L	0.015	0.005 U	0.005 U	0.005 U	0.003 J	0.005 U	0.005 U	0.005 U	0.005 U

NOTES: (1) U - not detected, J - estimated, * - exceeeds cleanup level, D - result from diluted analysis
(2) Only parameters for which there are cleanup levels are reported.

Table 1
PSC Resources Superfund Site
Palmer, MA
Historic Ground Water Analytical Results and Cleanup Levels

	Location ID		EM-MW-101C	EM-MW-101C	EM-MW-101C	EM-MW-101C	EM-MW-101C	EM-MW-101C	EM-MW-101C	EM-MW-102B
	Aquifer Type		Overburden	Overburden	Overburden	Overburden	Overburden	Overburden	Overburden	Overburden
	Lab Sample ID		R7573	S6638	T6799	V4207	Z1042	A7160	E2270	J7104
	Sample Date		12/19/2000	6/4/2001	12/10/2001	6/17/2002	12/3/2002	6/17/2003	6/21/2004	9/29/1998
	Test Type		Initial	Initial	Initial	Initial	Initial	Initial	Initial	Initial
Chemical Name	Unit	Ground Water Interim Cleanup Level								
Volatile Organic Compounds										
1,1,1-Trichloroethane	ug/L	200	0.50 U	0.50 U	0.5 U	0.50 U	0.5 U	0.50 U	0.50 U	0.50 U
1,1-Dichloroethane	ug/L	3600	0.50 U	0.50 U	0.5 U	0.50 U	0.5 U	0.50 U	0.50 U	0.66
2-Butanone (MEK)	ug/L	350	10 U	10 UJ	10 U	10. UJ	10 U	10. U	10. U	10 U
Acetone	ug/L	3500	1.3 J	10 UJ	10 U	10. UJ	10 UJ	1.8 J	10 UJ	10 U
Benzene	ug/L	5	0.50 U	0.50 U	0.5 U	0.50 U	0.5 U	0.50 U	0.50 U	0.50 U
Methylene chloride	ug/L	5	2.0 U	2.0 U	2 U	2.0 U	2 U	2.0 U	2.0 U	0.50 U
Tetrachloroethene	ug/L	5	0.50 U	0.50 U	0.5 U	0.50 U	0.5 U	0.50 U	0.50 U	0.50 U
Trichloroethene (TCE)	ug/L	5	0.50 U	0.50 U	0.5 U	0.50 U	0.5 U	0.50 U	0.50 U	0.50 U
Vinyl Chloride	ug/L	2	1.0 U	1.0 U	1 U	1.0 U	1 U	1.0 U	1.0 U	0.43 J
cis-1,2-Dichloroethene	ug/L	70	0.50 U	0.50 U	0.5 U	0.50 U	0.5 U	0.50 U	0.50 U	0.82
trans-1,2-Dichloroethene	ug/L	100	0.50 U	0.50 U	0.5 U	0.50 U	0.5 U	0.50 U	0.50 U	0.50 U
Semivolatile Organic Compounds										
bis(2-Ethylhexyl)phthalate (BEHP)	ug/L	6	5.3 U	5.0 U	5.2 U	5.0 U	5 U	5.1 U	5.1 U	5.1 U
Metals										
Lead	mg/L	0.015	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.0013 J	0.0050 U	0.005 U

NOTES: (1) U - not detected, J - estimated, * - exeeceds cleanup level, D - result from diluted analysis
(2) Only parameters for which there are cleanup levels are reported.

Table 1
PSC Resources Superfund Site
Palmer, MA
Historic Ground Water Analytical Results and Cleanup Levels

	Location ID		EM-MW-102B	EM-MW-102B	EM-MW-102B	EM-MW-102B	EM-MW-102B	EM-MW-102B	EM-MW-102B	EM-MW-102B
	Aquifer Type		Overburden	Overburden	Overburden	Overburden	Overburden	Overburden	Overburden	Overburden
	Lab Sample ID		J7106	K2180	K8058	M4252	N1967	N6674	Q0662	Q6351
	Sample Date		9/29/1998	12/14/1998	3/16/1999	6/14/1999	9/20/1999	12/13/1999	3/13/2000	6/12/2000
	Test Type		Field Duplicate	Initial	Initial	Initial	Initial	Initial	Initial	Initial
Chemical Name	Unit	Ground Water Interim Cleanup Level								
Volatile Organic Compounds										
1,1,1-Trichloroethane	ug/L	200	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
1,1-Dichloroethane	ug/L	3600	0.65	0.5	0.50 U	0.5	0.45 J	0.33 J	0.25 J	0.21 J
2-Butanone (MEK)	ug/L	350	10 U	10 U	10 U	10 U	10 U	10 U	10 UJ	10 U
Acetone	ug/L	3500	10 U	10 U	10 U	10 U	2.3 J	10 U	10 U	10 U
Benzene	ug/L	5	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
Methylene chloride	ug/L	5	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	2.0 U	2.0 U	2.0 U
Tetrachloroethene	ug/L	5	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
Trichloroethene (TCE)	ug/L	5	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
Vinyl Chloride	ug/L	2	0.42 J	1.0 U	1.0 U	0.35 J	0.27 J	0.27 J	1.0 U	1.0 U
cis-1,2-Dichloroethene	ug/L	70	0.82	0.67	0.29 J	0.62	0.52	1.2	0.33 J	0.28 J
trans-1,2-Dichloroethene	ug/L	100	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
Semivolatile Organic Compounds										
bis(2-Ethylhexyl)phthalate (BEHP)	ug/L	6	5.1 U	5.2 UJ	5.0 U	5.1 U	5.3 U	5.1 U	5.2 U	5.0 U
Metals										
Lead	mg/L	0.015	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U

NOTES: (1) U - not detected, J - estimated, * - exceeeds cleanup level, D - result from diluted analysis
(2) Only parameters for which there are cleanup levels are reported.

Table 1
PSC Resources Superfund Site
Palmer, MA
Historic Ground Water Analytical Results and Cleanup Levels

	Location ID		EM-MW-102B	EM-MW-102B	EM-MW-102B	EM-MW-102B	EM-MW-102B	EM-MW-102B	EM-MW-102B	EM-MW-102B
	Aquifer Type		Overburden	Overburden	Overburden	Overburden	Overburden	Overburden	Overburden	Overburden
	Lab Sample ID		Q6354	R7574	S6639	T6800	V4208	Z1043	Z1044RE	A7161
	Sample Date		6/12/2000	12/19/2000	6/5/2001	12/11/2001	6/17/2002	12/3/2002	12/3/2002	6/17/2003
	Test Type		Field Duplicate	Initial	Initial	Initial	Initial	Initial	Field Duplicate	Initial
Chemical Name	Unit	Ground Water Interim Cleanup Level								
Volatile Organic Compounds										
1,1,1-Trichloroethane	ug/L	200	0.50 U	0.50 U	0.50 U	0.5 U	0.50 U	0.5 U	0.5 U	0.50 U
1,1-Dichloroethane	ug/L	3600	0.22 J	0.24 J	0.13 J	0.25 J	0.50 U	0.11 J	0.12 J	0.50 U
2-Butanone (MEK)	ug/L	350	10 U	10 U	10 UJ	10 U	10 UJ	10 U	10 U	10 U
Acetone	ug/L	3500	3.6 J	10 UJ	10 UJ	10 U	1.2 J	10 UJ	10 UJ	4.7 J
Benzene	ug/L	5	0.50 U	0.50 U	0.50 U	0.5 U	0.50 U	0.5 U	0.5 U	0.50 U
Methylene chloride	ug/L	5	2.0 U	2.0 U	2.0 U	2 U	2.0 U	2 U	2 U	2.0 U
Tetrachloroethene	ug/L	5	0.50 U	0.50 U	0.50 U	0.5 U	0.50 U	0.5 U	0.5 U	0.50 U
Trichloroethene (TCE)	ug/L	5	0.50 U	0.50 U	0.50 U	0.5 U	0.23 J	0.5 U	0.5 U	0.50 U
Vinyl Chloride	ug/L	2	1.0 U	1.0 U	1.0 U	1 U	1.0 U	1 U	1 U	1.0 U
cis-1,2-Dichloroethene	ug/L	70	0.26 J	0.44 J	0.21 J	0.38 J	0.14 J	0.15 J	0.16 J	0.50 U
trans-1,2-Dichloroethene	ug/L	100	0.50 U	0.50 U	0.50 U	0.5 U	0.50 U	0.5 U	0.5 U	0.50 U
Semivolatile Organic Compounds										
bis(2-Ethylhexyl)phthalate (BEHP)	ug/L	6	1.3 J	5.0 U	1.7 J	5.1 U	5.0 U	5 U	5 U	5.0 U
Metals										
Lead	mg/L	0.015	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.0050 U

NOTES: (1) U - not detected, J - estimated, * - exeeceds cleanup level, D - result from diluted analysis
(2) Only parameters for which there are cleanup levels are reported.

Table 1
PSC Resources Superfund Site
Palmer, MA
Historic Ground Water Analytical Results and Cleanup Levels

	Location ID		EM-MW-102B	EM-MW-102B	EM-MW-102B	EM-MW-103C	EM-MW-103C	EM-MW-103C	EM-MW-103C	EM-MW-103C
	Aquifer Type		Overburden	Overburden	Overburden	Bedrock	Bedrock	Bedrock	Bedrock	Bedrock
	Lab Sample ID		A7167	E2271	E2274	J7103	K2258	K8063	M4330	N2202
	Sample Date		6/17/2003	6/22/2004	6/22/2004	9/29/1998	12/15/1998	3/17/1999	6/15/1999	9/23/1999
	Test Type		Field Duplicate	Initial	Field Duplicate	Initial	Initial	Initial	Initial	Initial
Chemical Name	Unit	Ground Water Interim Cleanup Level								
Volatile Organic Compounds										
1,1,1-Trichloroethane	ug/L	200	0.50 U	0.50 U	0.50 U	0.50 U	2.5 UD	5.0 U	0.50 U	2.5 U
1,1-Dichloroethane	ug/L	3600	0.50 U	0.50 U	0.14 J	6.3	5.8 D	4.4 J	3.5	2.7
2-Butanone (MEK)	ug/L	350	10 U	10 U	10 U	10 U	50 UD	100 U	10 U	50 UJ
Acetone	ug/L	3500	6.6 J	10 UJ	10 UJ	10 U	50 UD	100 U	10 U	50 UJ
Benzene	ug/L	5	0.50 U	0.50 U	0.50 U	46 *	130 D *	100 *	130 *	130 *
Methylene chloride	ug/L	5	2.0 U	2.0 U	2.0 U	0.51 U	1.6 JD	5.0 U	1.2 U	2.5 U
Tetrachloroethene	ug/L	5	0.50 U	0.50 U	0.50 U	0.50 U	2.5 UD	5.0 U	0.50 U	2.5 U
Trichloroethene (TCE)	ug/L	5	0.50 U	0.50 U	0.50 U	0.50 U	2.5 UD	5.0 U	0.50 U	2.5 U
Vinyl Chloride	ug/L	2	1.0 U	1.0 U	1.0 U	12 *	5.8 D *	6.6 J *	0.49 J	5.0 U *
cis-1,2-Dichloroethene	ug/L	70	0.50 U	0.21 J	0.22 J	4.7	2.1 JD	5.0 U	0.29 J	2.5 U
trans-1,2-Dichloroethene	ug/L	100	0.50 U	0.50 U	0.50 U	0.50 U	2.5 UD	5.0 U	0.88	2.5 U
Semivolatile Organic Compounds										
bis(2-Ethylhexyl)phthalate (BEHP)	ug/L	6	5.0 U	5.1 U	5.2 U	5.3 U	5.0 U	5.1 U	5.1 U	5.2 UJ
Metals										
Lead	mg/L	0.015	0.0050 U	0.0050 U	0.0050 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U

NOTES: (1) U - not detected, J - estimated, * - exeeceds cleanup level, D - result from diluted analysis
(2) Only parameters for which there are cleanup levels are reported.

Table 1
PSC Resources Superfund Site
Palmer, MA
Historic Ground Water Analytical Results and Cleanup Levels

	Location ID		EM-MW-103C	EM-MW-103C	EM-MW-103C	EM-MW-103C	EM-MW-103C	EM-MW-103C	EM-MW-103C	EM-MW-103C
	Aquifer Type		Bedrock	Bedrock	Bedrock	Bedrock	Bedrock	Bedrock	Bedrock	Bedrock
	Lab Sample ID		N6728	Q7889	R7577	S6717	T6802	V4421	Z1046	A7163
	Sample Date		12/14/1999	7/11/2000	12/20/2000	6/6/2001	12/11/2001	6/18/2002	12/4/2002	6/17/2003
	Test Type		Initial	Initial	Initial	Initial	Initial	Initial	Initial	Initial
Chemical Name	Unit	Ground Water Interim Cleanup Level								
Volatile Organic Compounds										
1,1,1-Trichloroethane	ug/L	200	0.50 U	0.50 U	0.50 U	0.50 UJ	0.5 U	0.50 U	0.5 U	0.50 U
1,1-Dichloroethane	ug/L	3600	2.6	4	4	1.9	2.2	0.96	3.8	2.5
2-Butanone (MEK)	ug/L	350	10 U	10 U	10 U	10 U	10 U	1.3 J	10 U	10 U
Acetone	ug/L	3500	10 U	10 U	51 J	10 U	10 U	6.0 J	10 UJ	0.98 J
Benzene	ug/L	5	100 *	18 *	33 *	26 *	13 *	14 *	45 *	18 *
Methylene chloride	ug/L	5	2.0 J	2 U	0.54 J	2.0 U	0.32 J	2.0 U	1.1 J	2.0 U
Tetrachloroethene	ug/L	5	0.50 U	0.50 U	0.50 U	0.50 U	0.5 U	0.50 U	0.5 U	0.50 U
Trichloroethene (TCE)	ug/L	5	0.50 U	0.50 U	0.50 U	0.50 U	0.17 J	0.50 U	0.12 J	0.50 U
Vinyl Chloride	ug/L	2	1.0 U	1.0 U	1.4	0.11 J	1 U	1.0 U	1 U	0.14 J
cis-1,2-Dichloroethene	ug/L	70	0.10 J	0.50 U	0.15 J	0.50 U	0.5 U	0.50 U	0.5 U	0.50 U
trans-1,2-Dichloroethene	ug/L	100	0.50 U	0.14 J	0.17 J	0.12 J	0.5 U	0.12 J	0.43 J	0.19 J
Semivolatile Organic Compounds										
bis(2-Ethylhexyl)phthalate (BEHP)	ug/L	6	5.2 U	5.1 U	5.0 U	5.1 U	1.3 J n	5.0 U	5 U	5.0 U
Metals										
Lead	mg/L	0.015	0.005 U	0.001 J	0.002 J	0.005 U	0.005 U	0.005 U	0.005 U	0.0011 J

NOTES: (1) U - not detected, J - estimated, * - exeeceds cleanup level, D - result from diluted analysis
(2) Only parameters for which there are cleanup levels are reported.

Table 1
PSC Resources Superfund Site
Palmer, MA
Historic Ground Water Analytical Results and Cleanup Levels

	Location ID		EM-MW-103C	EM-MW-104B	EM-MW-104B	EM-MW-104B	EM-MW-104B	EM-MW-104B	EM-MW-104B	EM-MW-104B
	Aquifer Type		Bedrock	Overburden	Overburden	Overburden	Overburden	Overburden	Overburden	Overburden
	Lab Sample ID		E2273	J7675	K2256	K8061	M4328	N1968	N6672	Q0665
	Sample Date		6/22/2004	10/9/1998	12/15/1998	3/17/1999	6/15/1999	9/20/1999	12/13/1999	3/13/2000
	Test Type		Initial	Initial	Initial	Initial	Initial	Initial	Initial	Initial
Chemical Name	Unit	Ground Water Interim Cleanup Level								
Volatile Organic Compounds										
1,1,1-Trichloroethane	ug/L	200	0.50 U	0.50 U	12 UD	5.0 U	0.50 U	5.0 U	2.5 U	0.50 U
1,1-Dichloroethane	ug/L	3600	1.8	12	20 D	7	5.8	17 J	11	6
2-Butanone (MEK)	ug/L	350	10 U	10 U	1000 UD *	100 U	10 U	100 U	50 U	10 U
Acetone	ug/L	3500	10 UJ	10 U	1000 UD	100 U	10 U	90 J	50 U	10 U
Benzene	ug/L	5	1.9	91 *	2700 D *	110 *	130 *	310 J *	120 *	58 *
Methylene chloride	ug/L	5	2.0 U	1.1 U	12 UD *	5.0 U	0.65 U	2.5 U	10 U	0.37 J
Tetrachloroethene	ug/L	5	0.16 J	0.50 U	12 UD *	5.0 U	0.50 U	5.0 U	2.5 U	0.50 U
Trichloroethene (TCE)	ug/L	5	0.50 U	0.50 U	50 UD *	5.0 U	0.11 J	5.0 U	2.5 U	0.50 U
Vinyl Chloride	ug/L	2	1.0 U	1.0 U	100 UD *	10 U	1.0 U	10 U *	5.0 U *	1.0 U *
cis-1,2-Dichloroethene	ug/L	70	0.50 U	0.25 J	32 D	5.0 U	0.50 U	5.0 U	2.5 U	0.50 U
trans-1,2-Dichloroethene	ug/L	100	0.50 U	0.9	12 UD	5.0 U	0.22 J	5.0 U	2.5 U	0.15 J
Semivolatile Organic Compounds										
bis(2-Ethylhexyl)phthalate (BEHP)	ug/L	6	5.0 U	5.7	5.2 UJ	5.1 U	5.3 U	5.1 U	6.7 U *	5.1 U
Metals										
Lead	mg/L	0.015	0.00089 J	0.005 U	0.01	0.002 J	0.005 U	0.005 U	0.005 U	0.005 U

NOTES: (1) U - not detected, J - estimated, * - exeeceds cleanup level, D - result from diluted analysis
(2) Only parameters for which there are cleanup levels are reported.

Table 1
PSC Resources Superfund Site
Palmer, MA
Historic Ground Water Analytical Results and Cleanup Levels

	Location ID		EM-MW-104B	EM-MW-104B	EM-MW-104B	EM-MW-104B	EM-MW-104B	EM-MW-104B	EM-MW-104B	EM-MW-104B
	Aquifer Type		Overburden	Overburden	Overburden	Overburden	Overburden	Overburden	Overburden	Overburden
	Lab Sample ID		Q6344	R7758	S6721	T6987	V4424	Z1445	A7166	E2310
	Sample Date		6/13/2000	12/21/2000	6/6/2001	12/12/2001	6/18/2002	12/5/2002	6/17/2003	6/23/2004
	Test Type		Initial	Initial	Initial	Initial	Initial	Initial	Initial	Initial
Chemical Name	Unit	Ground Water Interim Cleanup Level								
Volatile Organic Compounds										
1,1,1-Trichloroethane	ug/L	200	1.0 U	0.50 U	0.50 U	1 U	1.2 U	0.5 U	1.3 U	0.50 U
1,1-Dichloroethane	ug/L	3600	5.3	12	6.5	5.1	2.6	2.4	4.3	5.5
2-Butanone (MEK)	ug/L	350	20 U	10 UJ	10 U	20 U	25. UJ	10 U	25. U	10 U
Acetone	ug/L	3500	20 U	79 J	11 U	20 U	25. UJ	10 UJ	25. U	10 UJ
Benzene	ug/L	5	47 *	82 *	67 *	51 *	68. *	70 *	30. *	26. *
Methylene chloride	ug/L	5	4.0 U	2.0 U	2.0 U	0.53 J	5.0 U	0.43 J	5.0 U	0.41 J
Tetrachloroethene	ug/L	5	1.0 U	0.50 U	0.50 U	1 U	1.2 U	0.5 U	1.3 U	0.50 U
Trichloroethene (TCE)	ug/L	5	1.0 U	0.50 U	0.50 U	1 U	1.2 U	0.5 U	1.3 U	0.50 U
Vinyl Chloride	ug/L	2	2.0 U	1.0 U	1.0 U	2 U	2.5 U *	1 U	2.5 U *	1.0 U
cis-1,2-Dichloroethene	ug/L	70	1.0 U	0.50 U	0.50 U	1 U	1.2 U	0.5 U	1.3 U	0.50 U
trans-1,2-Dichloroethene	ug/L	100	1.0 U	0.33 J	0.18 J	1 U	1.2 U	0.18 J	1.3 U	0.50 U
Semivolatile Organic Compounds										
bis(2-Ethylhexyl)phthalate (BEHP)	ug/L	6	5.2 U	2.0 J	2.4 J	5.1 UJ	5.0 U	5 U	5.0 U	5.2 U
Metals										
Lead	mg/L	0.015	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.0050 U	0.0050 U

NOTES: (1) U - not detected, J - estimated, * - exceeds cleanup level, D - result from diluted analysis
(2) Only parameters for which there are cleanup levels are reported.

Table 1
PSC Resources Superfund Site
Palmer, MA
Historic Ground Water Analytical Results and Cleanup Levels

	Location ID		EM-MW-104C	EM-MW-104C	EM-MW-104C	EM-MW-104C	EM-MW-104C	EM-MW-104C	EM-MW-104C	EM-MW-104C
	Aquifer Type		Overburden	Overburden	Overburden	Overburden	Overburden	Overburden	Overburden	Overburden
	Lab Sample ID		J7105	K2262	K8350	M4331	N2203	N6726	Q0752	Q6346
	Sample Date		9/29/1998	12/15/1998	3/18/1999	6/15/1999	9/23/1999	12/14/1999	3/14/2000	6/13/2000
	Test Type		Initial	Initial	Initial	Initial	Initial	Initial	Initial	Initial
Chemical Name	Unit	Ground Water Interim Cleanup Level								
Volatile Organic Compounds										
1,1,1-Trichloroethane	ug/L	200	5.0 U	2.5 UD	50 U	0.50 U	10 U	0.30 J	0.50 U	0.50 U
1,1-Dichloroethane	ug/L	3600	100	11 D	50 U	31	3.0 J	4.9	0.82	0.96
2-Butanone (MEK)	ug/L	350	100 U	50 UD	1000 UJ *	10 U	200 UJ	10 U	10 U	10 U
Acetone	ug/L	3500	100 U	50 UD	1000 UJ	10 U	200 UJ	10 U	10 U	10 U
Benzene	ug/L	5	860 *	120 D *	2300 *	4900 *	530 *	190 *	89 *	40 *
Methylene chloride	ug/L	5	5.0 U	1.2 JD	50 U *	0.50 U	10 U *	2.0 U	2.0 U	2.0 U
Tetrachloroethene	ug/L	5	5.0 U	2.5 UD	50 U *	0.37 J	10 U *	0.55	0.29 J	0.24 J
Trichloroethene (TCE)	ug/L	5	2.6 J	2.5 UD	15 J *	5.5 *	10 U *	0.29 J	0.14 J	0.75
Vinyl Chloride	ug/L	2	5.9 J *	5.0 UD *	100 U *	1.9	20 U *	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	ug/L	70	110 *	2.5 UD	50 U	78 *	7.4 J	5.8	0.88	1.2
trans-1,2-Dichloroethene	ug/L	100	2.1 J	2.5 UD	50 U	1	10 U	0.50 U	0.50 U	0.50 U
Semivolatile Organic Compounds										
bis(2-Ethylhexyl)phthalate (BEHP)	ug/L	6	5.2 UJ	5.3 U	5.1 U	5.1 U	5.1 UJ	5.1 U	5.3 U	1.3 J
Metals										
Lead	mg/L	0.015	0.004 J	0.005 U	0.005 J	0.004 J	0.017 *	0.007	0.003 J	0.004 J

NOTES: (1) U - not detected, J - estimated, * - exceeds cleanup level, D - result from diluted analysis
(2) Only parameters for which there are cleanup levels are reported.

Table 1
PSC Resources Superfund Site
Palmer, MA
Historic Ground Water Analytical Results and Cleanup Levels

	Location ID		EM-MW-104C	EM-MW-104C	EM-MW-104C	EM-MW-104C	EM-MW-104C	EM-MW-104C	EM-MW-104C	EM-MW-104C
	Aquifer Type		Overburden	Overburden	Overburden	Overburden	Overburden	Overburden	Overburden	Overburden
	Lab Sample ID		R7579	S6719	S6720	T6986	V4423	Z1444	A7165	E2309
	Sample Date		12/20/2000	6/6/2001	6/6/2001	12/12/2001	6/18/2002	12/5/2002	6/17/2003	6/23/2004
	Test Type		Initial	Initial	Field Duplicate	Initial	Initial	Initial	Initial	Initial
Chemical Name	Unit	Ground Water Interim Cleanup Level								
Volatile Organic Compounds										
1,1,1-Trichloroethane	ug/L	200	0.50 U	0.50 U	0.50 U	1 U	0.50 U	0.5 U	0.50 U	0.50 U
1,1-Dichloroethane	ug/L	3600	0.41 J	0.72	0.8	4.4	0.16 J	0.11 J	0.12 J	0.82
2-Butanone (MEK)	ug/L	350	10 UJ	10 U	10 U	20 U	10 UJ	10 U	10. U	10. U
Acetone	ug/L	3500	10 UJ	10 U	10 U	20 U	2.8 J	10 UJ	10. U	10 UJ
Benzene	ug/L	5	8.3 *	72 *	70 *	120 J *	7.7 *	11 *	7.9 *	7.1 *
Methylene chloride	ug/L	5	2.0 U	2.0 U	2.0 U	4 U	2.0 U	2 U	2.0 U	2.0 U
Tetrachloroethene	ug/L	5	0.52	0.20 J	0.22 J	1 U	0.39 J	0.4 J	0.12 J	0.50 U
Trichloroethene (TCE)	ug/L	5	0.12 J	0.20 J	0.22 J	0.42 J	0.50 U	0.11 J	0.50 U	0.13 J
Vinyl Chloride	ug/L	2	1.0 U	1.0 U	1.0 U	2 U	1.0 U	1 U	1.0 U	0.11 J
cis-1,2-Dichloroethene	ug/L	70	0.16 J	0.75	0.84	3.6	0.20 J	0.17 J	0.20 J	0.63
trans-1,2-Dichloroethene	ug/L	100	0.50 U	0.50 U	0.50 U	1 U	0.50 U	0.5 U	0.50 U	0.50 U
Semivolatile Organic Compounds										
bis(2-Ethylhexyl)phthalate (BEHP)	ug/L	6	3.6 J	2.6 J	7.2 *	5.1 UJ	5.2 U	5.2 U	5.0 U	2.6 J
Metals										
Lead	mg/L	0.015	0.003 J	0.004 J	0.004 J	0.0045 J	0.006	0.007	0.0095	0.0072

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Table 1
PSC Resources Superfund Site
Palmer, MA
Historic Ground Water Analytical Results and Cleanup Levels

	Location ID		EM-MW-105B	EM-MW-105B	EM-MW-105B	EM-MW-105B	EM-MW-105B	EM-MW-105B	EM-MW-105B	EM-MW-105B
	Aquifer Type		Overburden	Overburden	Overburden	Overburden	Overburden	Overburden	Overburden	Overburden
	Lab Sample ID		J7102	K2257	K2260	K8062	M4329	N2201	N2204	N6727
	Sample Date		9/29/1998	12/15/1998	12/15/1998	3/17/1999	6/15/1999	9/23/1999	9/23/1999	12/14/1999
	Test Type		Initial	Initial	Field Duplicate	Initial	Initial	Initial	Initial	Initial
Chemical Name	Unit	Ground Water Interim Cleanup Level								
Volatile Organic Compounds										
1,1,1-Trichloroethane	ug/L	200	51	81 D	80 D	49	60	130	130	69
1,1-Dichloroethane	ug/L	3600	160	170 D	170 D	150	150	88	87	100
2-Butanone (MEK)	ug/L	350	100 U	100 UD	44 JD	100 U	28 J	50 UJ	50 UJ	50 U
Acetone	ug/L	3500	190	250 D	200 D	130	140	50 UJ	50 UJ	50 U
Benzene	ug/L	5	14 *	15 D *	12 D *	12 *	13 *	1.4 J	1.4 J	3.8 *
Methylene chloride	ug/L	5	5.0 U	1.3 JD	1.1 JD	5.0 U	2.5 U	2.5 U	2.5 U	10 U *
Tetrachloroethene	ug/L	5	5.0 U	5.0 UD	5.0 UD	5.0 U	0.65 J	1.4 J	1.5 J	0.90 J
Trichloroethene (TCE)	ug/L	5	3.0 J	4.1 JD	3.9 JD	2.8 J	3.1	1.6 J	1.9 J	1.8 J
Vinyl Chloride	ug/L	2	3.5 J *	5.9 JD *	6.2 JD *	13 *	5.2 *	5.0 U *	5.0 U *	5.0 U *
cis-1,2-Dichloroethene	ug/L	70	61	59 D	57 D	44	44	12	12	30
trans-1,2-Dichloroethene	ug/L	100	1.3 J	1.4 JD	1.5 JD	1.2 J	1.2 J	2.5 U	2.5 U	2.5 U
Semivolatile Organic Compounds										
bis(2-Ethylhexyl)phthalate (BEHP)	ug/L	6	5.3 UJ	5.1 UJ	5.3 U	5.1 U	5.2 U	5.1 UJ	5.0 UJ	5.4 U
Metals										
Lead	mg/L	0.015	0.002 J	0.003 J	0.003 J	0.005 U	0.003 J	0.006	0.006	0.004 J

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(2) Only parameters for which there are cleanup levels are reported.

Table 1
PSC Resources Superfund Site
Palmer, MA
Historic Ground Water Analytical Results and Cleanup Levels

	Location ID		EM-MW-105B	EM-MW-105B	EM-MW-105B	EM-MW-105B	EM-MW-105B	EM-MW-105B	EM-MW-105B	EM-MW-105B
	Aquifer Type		Overburden	Overburden	Overburden	Overburden	Overburden	Overburden	Overburden	Overburden
	Lab Sample ID		Q0751	Q6345	R7578	R7580	S6718	T6984	T6985	V4422
	Sample Date		3/14/2000	6/13/2000	12/20/2000	12/20/2000	6/6/2001	12/12/2001	12/12/2001	6/18/2002
	Test Type		Initial	Initial	Initial	Field Duplicate	Initial	Initial	Field Duplicate	Initial
Chemical Name	Unit	Ground Water Interim Cleanup Level								
Volatile Organic Compounds										
1,1,1-Trichloroethane	ug/L	200	28	53	17	16	20	18	15	20
1,1-Dichloroethane	ug/L	3600	110	99	150	150	110	96	88	72
2-Butanone (MEK)	ug/L	350	100 U	20 U	50	45	50 U	50 U	50 U	50. UJ
Acetone	ug/L	3500	100 U	160	180 J	190 J	83 U	50 U	50 U	21. J
Benzene	ug/L	5	6.9 *	5.8 *	12 *	13 *	9.1 *	6.9 *	6.6 *	3.2
Methylene chloride	ug/L	5	20 U *	4.0 U	0.52 J	0.54 J	10 U *	10 U *	10 U *	10 U *
Tetrachloroethene	ug/L	5	5.0 U	0.68 J	0.58 J	0.58 J	0.51 J	2.5 U	2.5 U	0.97 J
Trichloroethene (TCE)	ug/L	5	5.0 U	2.2	2.6	2.7	1.6 J	1.1 J	1.1 J	2.3 J
Vinyl Chloride	ug/L	2	6.9 J *	4.6 *	14 *	13 *	5.4 *	3.8 J *	3.6 J *	3.7 J *
cis-1,2-Dichloroethene	ug/L	70	16	22	36	36	20	21	19	16
trans-1,2-Dichloroethene	ug/L	100	5.0 U	0.72 J	1.8	1.8	0.97 J	2.5 U	0.58 J	2.5 U
Semivolatile Organic Compounds										
bis(2-Ethylhexyl)phthalate (BEHP)	ug/L	6	5.7 U	43 *	5.1 U	5.0 U	4.6 J	5.1 U	1.6 J	5.0 U
Metals										
Lead	mg/L	0.015	0.002 J	0.001 J	0.002 J	0.005 U	0.005 U	0.0025 J	0.0028 J	0.004 J

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(2) Only parameters for which there are cleanup levels are reported.

Table 1
PSC Resources Superfund Site
Palmer, MA
Historic Ground Water Analytical Results and Cleanup Levels

	Location ID		EM-MW-105B	EM-MW-105B	EM-MW-105B	EM-MW-105B	EM-PSC-112S	EM-PSC-112S	EM-PSC-112S	EM-PSC-112S
	Aquifer Type		Overburden	Overburden	Overburden	Overburden	Overburden	Overburden	Overburden	Overburden
	Lab Sample ID		V4425	Z1443	A7164	E2308	J7672	K2182	K8066	K8067
	Sample Date		6/18/2002	12/5/2002	6/17/2003	6/23/2004	10/9/1998	12/14/1998	3/17/1999	3/17/1999
	Test Type		Field Duplicate	Initial	Initial	Initial	Initial	Initial	Initial	Field Duplicate
Chemical Name	Unit	Ground Water Interim Cleanup Level								
Volatile Organic Compounds										
1,1,1-Trichloroethane	ug/L	200	20	7.9	5.2	4.2	0.50 U	0.50 U	0.50 U	0.50 U
1,1-Dichloroethane	ug/L	3600	73	50	68	66	9.1	12	3.6	3.5
2-Butanone (MEK)	ug/L	350	50 UJ	100 U	50. U	20. U	10 U	10 U	10 U	10 U
Acetone	ug/L	3500	21. J	100 UJ	6.4 J	20 UJ	9.4 J	10 U	10 U	10 U
Benzene	ug/L	5	3.2	2.4 J	4.9	4.3	0.79	3	0.64	0.61
Methylene chloride	ug/L	5	10 U *	20 U *	10. U *	4.0 U	0.5 U	0.50 U	0.50 U	0.50 U
Tetrachloroethene	ug/L	5	1.1 J	5 U	0.93 J	0.29 J	0.50 U	0.50 U	0.50 U	0.50 U
Trichloroethene (TCE)	ug/L	5	2.2 J	5 U	1.2 J	0.99 J	0.50 U	0.50 U	0.50 U	0.50 U
Vinyl Chloride	ug/L	2	3.7 J *	10 U*	5.1 *	4.1 *	0.20 J	0.26 J	0.48 J	0.47 J
cis-1,2-Dichloroethene	ug/L	70	16	6.2	10	11	0.18 J	0.14 J	0.50 U	0.50 U
trans-1,2-Dichloroethene	ug/L	100	0.51 J	5 U	0.61 J	0.45 J	0.14 J	0.28 J	0.50 U	0.50 U
Semivolatile Organic Compounds										
bis(2-Ethylhexyl)phthalate (BEHP)	ug/L	6	5.0 U	5 U	5.0 U	5.1 U	5.3 U	5.3 U	5.0 U	5.1 U
Metals										
Lead	mg/L	0.015	0.004 J	0.003 J	0.0014 J	0.00088 J	0.005 U	0.005 U	0.005 U	0.005 U

NOTES: (1) U - not detected, J - estimated, * - exeeeds cleanup level, D - result from diluted analysis
(2) Only parameters for which there are cleanup levels are reported.

Table 1
PSC Resources Superfund Site
Palmer, MA
Historic Ground Water Analytical Results and Cleanup Levels

	Location ID		EM-PSC-112S	EM-PSC-112S	EM-PSC-112S	EM-PSC-112S	EM-PSC-112S	EM-PSC-112S	EM-PSC-112S	EM-PSC-112S
	Aquifer Type		Overburden	Overburden	Overburden	Overburden	Overburden	Overburden	Overburden	Overburden
	Lab Sample ID		M4253	M4254	N1969	N6671	N6673	Q0664	Q0663	Q6353
	Sample Date		6/14/1999	6/14/1999	9/20/1999	12/13/1999	12/13/1999	3/13/2000	3/13/2000	6/12/2000
	Test Type		Initial	Field Duplicate	Initial	Initial	Initial	Initial	Field Duplicate	Initial
Chemical Name	Unit	Ground Water Interim Cleanup Level								
Volatile Organic Compounds										
1,1,1-Trichloroethane	ug/L	200	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
1,1-Dichloroethane	ug/L	3600	5.7	5.6	2.6 J	4.6	4.5	1.7	1.7	4.6
2-Butanone (MEK)	ug/L	350	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Acetone	ug/L	3500	10 U	10 U	2.1 J	10 U	1.1 J	10 U	10 U	7.2 J
Benzene	ug/L	5	2	1.8	0.47 J	0.97	0.96	0.39 J	0.40 J	0.78
Methylene chloride	ug/L	5	0.50 U	0.50 U	0.5 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Tetrachloroethene	ug/L	5	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
Trichloroethene (TCE)	ug/L	5	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
Vinyl Chloride	ug/L	2	1.0 U	1.0 U	1.0 U	0.11 J	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	ug/L	70	0.50 U	0.50 U	0.50 U	2.3	1.2	0.50 U	0.50 U	0.50 U
trans-1,2-Dichloroethene	ug/L	100	0.13 J	0.14 J	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
Semivolatile Organic Compounds										
bis(2-Ethylhexyl)phthalate (BEHP)	ug/L	6	5.1 U	5.1 U	5.1 U	5.6 U	7.1 U	5.2 U	5.3 U	5.1 U
Metals										
Lead	mg/L	0.015	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U

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(2) Only parameters for which there are cleanup levels are reported.

Table 1
PSC Resources Superfund Site
Palmer, MA
Historic Ground Water Analytical Results and Cleanup Levels

	Location ID		EM-PSC-112S	EM-PSC-112S	EM-PSC-112S	EM-PSC-112S	EM-PSC-112S	EM-PSC-112S	EM-PSC-112S
	Aquifer Type		Overburden	Overburden	Overburden	Overburden	Overburden	Overburden	Overburden
	Lab Sample ID		R7576	S6716	T6801	V4209	Z1045	A7162	E2272
	Sample Date		12/20/2000	6/6/2001	12/11/2001	6/17/2002	12/4/2002	6/17/2003	6/22/2004
	Test Type		Initial	Initial	Initial	Initial	Initial	Initial	Initial
Chemical Name	Unit	Ground Water Interim Cleanup Level							
Volatile Organic Compounds									
1,1,1-Trichloroethane	ug/L	200	0.50 U	0.50 U	0.5 U	0.50 U	0.5 U	0.50 U	0.50 U
1,1-Dichloroethane	ug/L	3600	7	8.6	8.6	2.2	3.6	5.5	7.2
2-Butanone (MEK)	ug/L	350	10 U	1.3 J	10 U	10 UJ	10 U	10. U	10 U
Acetone	ug/L	3500	10 UJ	10 U	10 U	10. UJ	10 UJ	10. U	10 UJ
Benzene	ug/L	5	0.7	1.7	0.96	0.18 J	0.42 J	0.44 J	0.58
Methylene chloride	ug/L	5	2.0 U	2.0 U	2 U	2.0 U	2 U	2.0 U	2.0 U
Tetrachloroethene	ug/L	5	0.50 U	0.50 U	0.5 U	0.50 U	0.5 U	0.50 U	0.50 U
Trichloroethene (TCE)	ug/L	5	0.50 U	0.50 U	0.5 U	0.50 U	0.5 U	0.50 U	0.50 U
Vinyl Chloride	ug/L	2	1.0 U	1.0 U	0.24 J	1.0 U	1 U	0.20 J	0.19 J
cis-1,2-Dichloroethene	ug/L	70	0.50 U	0.50 U	0.5 U	0.50 U	0.5 U	0.13 J	0.50 U
trans-1,2-Dichloroethene	ug/L	100	0.50 U	0.50 U	0.5 U	0.50 U	0.5 U	0.50 U	0.50 U
Semivolatile Organic Compounds									
bis(2-Ethylhexyl)phthalate (BEHP)	ug/L	6	5.0 U	2.6 J	5.1 U	5.0 U	5 U	5.0 U	5.3 U
Metals									
Lead	mg/L	0.015	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.0050 U	0.0050 U

NOTES: (1) U - not detected, J - estimated, * - exeeceds cleanup level, D - result from diluted analysis
(2) Only parameters for which there are cleanup levels are reported.

Attachment 1

Documents Reviewed for the 5-year Review

1. Environmental Protection Agency. PSC Resources Site, Record of Decision. September 15, 1992

2. Environmental Protection Agency. PSC Resources Site, Explanation of Significant Differences. November 26, 1996

3. O'Brien & Gere Engineers, Inc. Final Remedial Construction Source Control Close-Out Report. June 1998.

4. O'Brien & Gere Engineers, Inc. Operation and Maintenance Plan, Environmental Monitoring Work Plan, and Project Operations Plan. June 1998.

5. Environmental Protection Agency. PSC Resources Site, Preliminary Close-Out Report (PCOR). August 28,1998.

6. Environmental Protection Agency. PSC Resources Site, Remedial Action Report. March 9, 1999.

7. O'Brien & Gere Engineers, Inc. Draft Summer 2003 Environmental Monitoring Report. October 2003.

8. O'Brien & Gere Engineers, Inc. Draft Summer 2004 Environmental Monitoring Report. November 2004.

9. O'Brien & Gere Engineers, Inc. Letter Report. "Restored Wetland/Enhancement Area Evaluation. January 18, 2005.